

Origin and distribution of water contents in continental and oceanic lithospheric mantle.

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The water content distribution of the upper mantle will be reviewed as based on the peridotite record. The amount of water in cratonic xenoliths appears controlled by metasomatism while that of the oceanic mantle retains in part the signature of melting events. In both cases, the water distribution is heterogeneous both with depth and laterally, depending on localized water re-enrichments next to melt/fluid channels. The consequence of the water distribution on the rheology of the upper mantle and the location of the lithosphere-asthenosphere boundary will also be discussed.